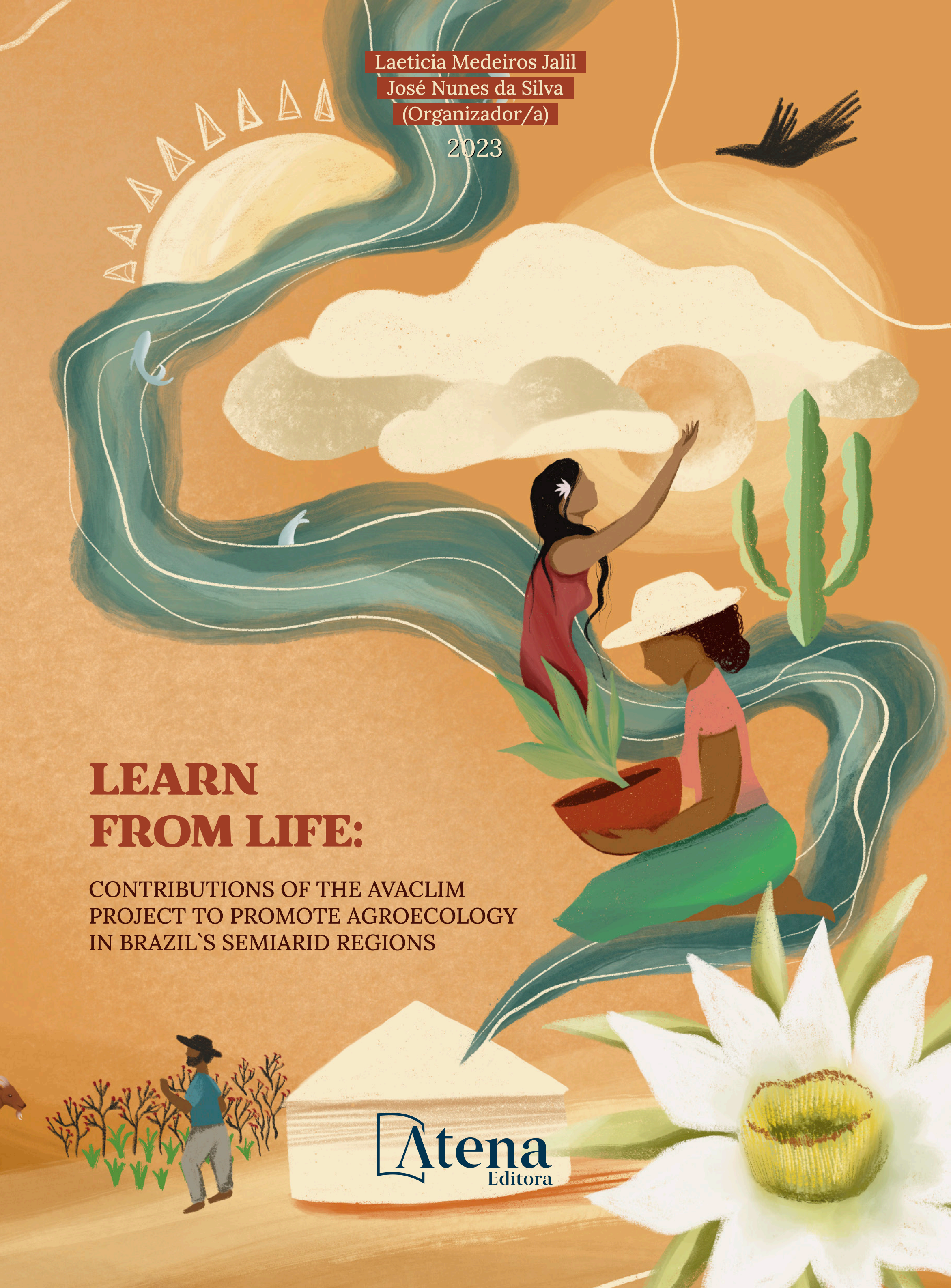
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2023



LEARN FROM LIFE:

CONTRIBUTIONS OF THE AVACLIM PROJECT TO PROMOTE AGROECOLOGY IN BRAZIL`S SEMIARID REGIONS

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PREFACE

Paulo Pedro de Carvalho -

CAATINGA's Resource Mobilization Coordinator and Coordinator of AVACLIM Brazil for CAATINGA.

It is an honour to be able to contribute with these humble words that will occupy the space of the preface of this publication that represents the effort and dedication of systematization and materialization of the results of a mission accomplished with praise, a lot of determination and complicity among different actors—educational institutions, research and extension ones, NGOs, networks and initiatives, families of rural producers and their grassroots organizations and movements—who have already chosen a common and shared path in defence of the well being through agroecology. Through these words, readers will find scientific data, opinions and standpoints constructed jointly and carefully, which consolidate evidence and certainties of the ability of agroecological experiments in family agriculture to transform lives, promoting abundance and plenty, citizenship and balance on planet Earth. This opportunity, that has been even more exciting and pleasurable

because of the challenges, provocative discussions and learnings, has been offered by the project AVACLIM—Agroecology, Ensuring Food Security and Sustainable Livelihoods, Mitigating Climate Change and Recovering Land in Dry Regions. This is a huge and complex effort, lasting more than a decade, by a group of civil society organizations linked to Drynet (abbreviation of Dry Network, "Rede Secas", in Portuguese), involved with the implementation of the United Nations Convention to Combat Desertification (UNCCD).

In this first phase—January/2020–December/2022—, AVACLIM has been implemented in 07 countries, under the national coordination of 07 NGOs, in 03 continents (Americas—Brazil/CAATINGA; Africa—South Africa/EMG, Burkina Faso/ARFA, Ethiopia/ISD, Morocco/Agrisud and Senegal/ENDA; Asia—India/GBS). Having the Central Coordination headquartered in France with CARI—Centre d'Actions et de Réalisations Internationales and the following components' coordination: EMG (South Africa) in Component 1: Systematization of Agroecological Experiences; IRD/CIRAD and SupAgro Montpellier (France) in Component 2: Scientific—Study and Analysis of Agroecological Experiences, Application of

Tools and Methods; BothEnds (Netherlands) and CARI (France) in Component 3: Political Incidence (local, regional, state, national, international); and CARI (France) in Component 4: Communication—visibility of the agroecological usefulness for solving complex and systemic problems.

Assuming responsibility for coordinating the project in Brazil, CAATINGA showed courage and strategy, having no doubts about the path it needed to take to ensure that the opportunity would not be wasted. Thus, it established a process of social articulation with organizations participating in the regional agroecological movement within the semi-arid region, with which it has been establishing partnerships for a while. What seemed to make things more complex and, consequently, more difficult to manage (and it's indeed more difficult), has been the key to the greatness of the project's reach in the country. When the original guideline of the project suggested the identification of a national scientific partner and an intern, practice and destiny showed us that there were many more subjects with the potential and willingness to share this mission with the institution leading the way. Thus, the main group for implementing

the project was jointly constructed and named: Popular and Scientific Consortium for AVACLIM Brazil, directly composed of 12 organizations: 05 teaching, research and extension institutions: 01. Universidade Federal Rural de Pernambuco–UFRPE (leader of the Consortium, represented by Professor Laetícia Jalil), 02. Universidade do Vale do Rio São Francisco–UNIVASF (represented by Professor Hélder Freitas), 03. Universidade da Integração Internacional da Lusofonia Afro-Brasileira–UNILAB (represented by Professor Marcelo Casimiro Cavalcante), 04. Instituto Federal do Sertão–IF Sertão (represented by Professor Cristiane Marinho), 05. Instituto Nacional do Semiárido—INSA, under the umbrella of the Ministry of Science, Technology, Innovations and Communications–MCTIC (represented by Researcher and Professor Aldrin Perez); and 07 non-governmental organizations, members of several national, regional and global networks and social articulations: 01. Agricultura Familiar e Agroecologia–ASPTA, 02. Centro de Assessoria e Apoio aos Trabalhadores e Instituições Não Governamentais Alternativas–CAATINGA, 03. Centro de Estudos do Trabalho e de Assessoria ao Trabalhador–CETRA, 04. Instituto Regional da Pequena Agropecuária

Apropriada–IRPAA, 05. Programa de Aplicação de Tecnologia Apropriada às Comunidades–PATAC, 06. Centro de Desenvolvimento Agroecológico–SABIÁ, and 07. Núcleo Jurema—Feminismo, agroecologia e ruralidades.

But the main protagonists are far from have been completely elicited in the paragraph above, and another fundamental actor, as fundamental as important, was the Programmatic and methodological advisory (and also English-Portuguese translation) provided by Mr. Wouter van Oosterhout, an advocate for agroecology and for dignified living in the semi-arid regions and all over the planet, not letting alone his professionalism and high capacities. Also highlight the important contributions from the interns (Luana, Danielle, Beatriz, Claudivan, Lucas, Jannah, Luiza, Laureane Castro), who more than apprentices, have been of great importance in the debates and construction of knowledge, in the organization and performance of events and in the processes of records and reports, also active advocates that AVACLIM helped to train.

In time! We will never forget the rich and beautiful contributions of the poet Caio Meneses, with his literary gift, collaborating with the poetic moderations for

the events, a significant and symbolic innovation and a highlight in the project's activities in the country. We can say with certainty that this great team, representing the several organizations, is made of active advocates for the agroecological movement and, this, actually, is not a mere detail, it is the meaning's essence of the results achieved in Brazil.

It is necessary to thank
To the project AVACLIM
for leading us to make
Such a good event to her and him
And this event journey
Blooms to be a turnkey
Inside each one of us
Like the seed to germinate and grow
May we be able to keep the flow
To spread to the world our blow
However, this critical mass
Made of old and new grass
Has to polish the political brass
As people see life through the glass
The cistern has been shown
That a State policy not put below
When it starts from a solid stand
Makes out of agroecology
Such a high technology
To coexist with the dry land

Caio Meneses

But the farming families were the central protagonists, they who have and experience, on a daily basis, the agroecological practices. In the selection of the most directly participating experiences in the application of the AVACLIM method, it has been bold, but also necessary, to involve 10 experiences (04 from Pernambuco—02 from the Sertão do Araripe—assisted by CAATINGA and 02 from the Sertão do Pajeú assisted by SABIÁ; 02 from Bahia—Sertão do São Francisco—assisted by IRPAA; 02 from Ceará—Vale do Curu and Aracatiaçu territories—assisted by CETRA; 02 from Paraíba—01 from the State of Paraíba Semi-Arid—assisted by PATAC—and 01 in the Polo da Borborema—assisted by ASPTA) in the first phase of identification and systematization. Of the 10, even with difficulties, as they are all very rich and representative, 04 were chosen (01 from PE*, 01 from BA, 01 from PB and 01 from CE) for the second phase—stages 1, 2 and 3—of research and deepening, with which it was intended to continue until the final phase—stage 4—of the research. *Brazilian states abbreviations. But due to the complexity, deadlines and limited resources, 02 experiments were carried out (01

in PE—EcoAraripe in the Sertão* do Araripe; 01 in BA—ReCaatingamento, recovery of the Caatinga biome—in the Sertão do São Francisco), thus fulfilling the original goal of the project. *Sertão is a Portuguese word for countryside or hinterland, but in the context of AVACLIM it can be translated to dryland as well.

AVACLIM sets a good example and fulfils a great global need: to strengthen networks and movements with more capability of making visible and promoting agroecology, through the construction of knowledge, with exchanges of know-how, research data, systematization, communication, aiming to advance within the worldwide political agenda and towards a favourable reputation from the public to agroecology, as an adequate way to overcome poverty, promote sovereignty and food and nutritional security, preservation, conservation and recovery of biodiversity and ecosystems. Combating desertification, confronting and adapting the cultures and livelihoods of territories and nations to climate change.

AVACLIM, French acronym for: Agroécologie, une voie d'Adaptation pour le Changement Climatique (which in English could be: Agroecology, a way of Adapta-

tion to Climate Change).

Let's gather together in defence of life in abundance for all!

Paulo Pedro de Carvalho

Agronomist Engineer, member of the Coordination for the NGO CAATINGA.

CONTENTS



INTRODUCTION

Humanity is experiencing a socio-ecological-political crisis. From an ecological point of view, climate change is one of the main aspects of this problem. Different UN organizations and other bilateral bodies of global governance have highlighted how such changes significantly affect the different regions of the world and their peoples. These impacts aggravate regional inequalities, contributing to an increase in poverty and hunger, sexist and gender violence, environmental racism, among other sociopolitical ills.[1]

The semi-arid regions of the world are the most impacted ones by this reality. The different forms of appropriation of nature aimed at intensifying economic activities, such as industrial agriculture and mining, accelerate processes of environmental and social degradation, influencing water regimes, soil quality and fertility, causing the extinction of species and forcing large exodus and forced migrations, among others.

Part of these socio-environmental impacts is undoubtedly the result of the choice made, worldwide, for the

[1] This process is part of what we call the Anthropocene Crisis, in which human beings and their development projects are the main causes of environmental degradation, loss of biodiversity, extinction of peoples and biomes, fauna and flora. To know more, search for ALVES; JED, 2015.

development of the so-called industrial agriculture. In contrast, agroecology presents itself as a project capable of producing food, collectively building socio-political-economic processes, based on relationships of solidarity and reciprocity, redefining the paths of local agricultural food systems, with the active participation of women and men, who manage land and life, based on another relationship between societies and nature.

The experience reported here is part of the development of the Project AVACLIM—Agroecology, Ensuring Food Security and Sustainable Livelihoods, Mitigating Climate Change and Recovering Land in Dry Regions, which adopts a central hypothesis that agroecology enhances the experience resilience of the farming families and rural women all over the arid lands in the world.[2]

[2] To know more: https://avaclim.org/en/home/

What is AVACLIM?

AVACLIM—Agroecology, Ensuring Food Security and Sustainable Livelihoods, Mitigating Climate Change and Recovering Land in Dry Regions, is a project built and developed by the Centre d'Actions et de Réalisations Internationales–CARI, Institut de Recherche pour le Développement–IRD, Recherche Agronomique et de coopération internationale pour le développement–CIRAD, together with international partners with significant and recognized performance in the processes of agroecological transition in their countries, such as CAATINGA–Centro de Assessoria e Apoio aos Trabalhadores e Instituições Não-Governamentais Alternativas, in Brazil, seeking to build evidence bases on the effectiveness of agroecological experiences in the fight against desertification, and in the construc-



tion of alternatives that face climate change, preserve agrobiodiversity and guarantee Food and Nutrition Security.[3,4,5,6,7]

Based on the systematization of these different experiences, we seek, together with global actors, to contribute to political decision-making on broader scales, with national and international programmes, establishing agroecology among possible solutions to the world crises. Furthermore, it is essential that agroecology enables the strengthening of local processes, contributing to political advocacy and recognition of the importance of family farming for sustainable solutions and guaranteeing food security in the semi-arid regions of the world.

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[3] The Project AVACLIM is running concurrently in partnership with local organizations in 7 countries: Brazil, Morocco, South Africa, India, Burkina Faso, Ethiopia and Senegal.
[4] https://www.cariassociation.org
[5] https://www.ird.fr/
[6] https://www.cirad.fr/
[7] https://caatinga.org.br

The methodological proposal and its adaptations to the Brazilian context

For the implementation of the Project AVACLIM in Brazil, an Academic and Popular Consortium has been summoned and assembled by CAATINGA. This consortium, formed by researchers, students, farmers, and technicians, played an important role not only in testing the methodology proposed by AVACLIM, but in the joint articulation between experiences and organizations, ensuring the dialogue of know-hows and the strengthening of local processes. For us, the project came as an opportunity to delve deeper into the agroecological transition experiences in the Brazilian semi-arid region, and to think together about the journeys, bottlenecks and potentials of each one of them. Another highlight was the challenge of translating a methodological proposal and its adaptation to the Brazilian reality, as well

as communication between local partners, ensuring that this to be a collective process of building agroecological knowledge.[8]

For us, one of the fundamental principles in the construction of any research and extension process is to ensure this dialogue of know-hows and the understanding of all the involved. Why are we going to do it, what is it for and how are we going to take ownership over the data and processes generated? For us, this collective understanding of the process experienced becomes fundamental to reaffirm local processes and strengthen experiences, in their different realities.

The first question that drives us is to think to what extent does the Project AVACLIM strengthen us as a scientific and popular consortium, as well as to strengthen the experiences? How AVACLIM emerged as an opportunity for exchanges and to think/rethink our agroecological work from different places/perspectives (technical advisory organizations, universities and fede-

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[8] For the Brazilian arrangement, a Consortium was formed with the following Organizations and institutions of teaching and research: CAATINGA (www.caatinga.org.br), PATAC (www.patacparaiba.blogspot.com), CETRA (www.ce- tra.org.b) and IRPAA (www.irpaa.org). The Universities are Federal Rural University of Pernambuco - UFRPE (www.ufrpe.br), Universidade Vale do São Francisco - UNIVASF (www.portais.univasf.edu.br), Federal Institute of Sertão (www.ifsertao-pe.edu.br), University of International Integration of Lu- Afro-Brazilian Sophony - UNILAB (www.unilab.edu.br) and National Institute of the Semi-Arid (GOV.BR insa/pt-br).

ral institutes, and, above all, experiences and families with their actors, such as women and youth)?

Starting from these background reflections, in this publication we present our experience in applying the method, the adaptations that were made, as well as the innovations that we inserted, with the aim of a greater deepening of the understanding about the processes of the agroecological transition for each initiative (either collective and/or individual).

Based on this foundation, we work with four components for the Project AVACLIM in Brazil.



The experiences investigated for the methodological scientific deepening within the scope of the Project AVACLIM–Component 2

At this stage of the investigation, three of the ten initiatives have been chosen among the identified ones and presented at the National Seminar on Systematization of Experiences promoted by the Project AVACLIM, in partnership with the Brazilian partners. At this time, in order to define and select which of the ten experiences (previously systematized) would be the object of further analysis, based on the use of the AVACLIM method, criteria have been collectively created to meet the interests of the partner organizations, in addition to what has been foreseen in the Project:

- Experiences that interact with local, regional, national networks (marketing, certification, experimentation);
- That are close to research centres;

- That strengthen multiple narratives (women, youth, native Indians, LGBTQI+) and manage to incorporate issues such as tackling violence, fair division of labour, political participation, leadership, autonomy, empowerment;
- That strengthen the production of healthy food and build alternatives and answers to climate issues and desertification processes;
- That interact with public policies;
- That have potential for adaptation or replication, and
- That are related with biomes in sustainable practices for the preservation of agrobiodiversity (seeds, for example).

It also became important for us that they could strengthen the production of healthy food and dedicate themselves to building alternatives and responses to climate issues and desertification processes. In this sense, the interaction of these experiences with public policies, as well as their potential for adaptation or replication in semi-arid biomes, relating to sustainable practices for the preservation of agrobiodiversity (such as preservation/conservation of seeds, for example), were central characteristics for selection.

This said, three experiences were selected, two of them collective ones: Ecoararipe (Ouricuri, Sertão do Araripe, state of Pernambuco) and ReCaatingamento (Uauá, Territory of Sertão do São Francisco, Bahia); and one individual experience: Dona Fafá (Itapipoca, territories of Curu Valley and Aracatiçú, Ceará).



ECOARARIPE

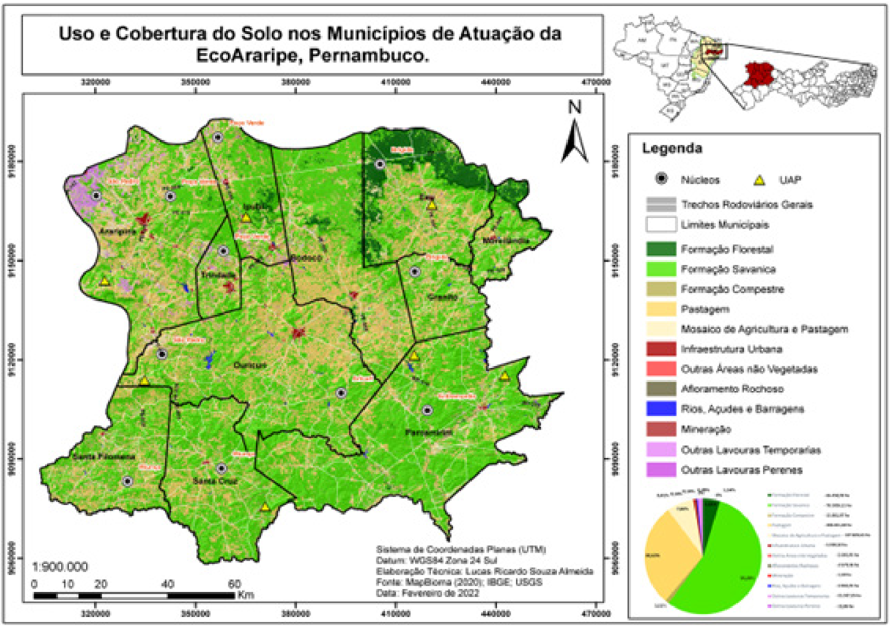
Agro-ecological Technical Advisory Organisation: Centro de Assessoria e Apoio aos Trabalhadores e Instituições Não--Governamentais Alternativas–CAATINGA-PE

The Association of Agroecological Family Farmers of Araripe (Associação de Agricultores e Agricultoras do Território do Araripe–ECOARARIPE) is a Participatory Body for Organic Conformity Assessment (Organismo Participativo de Avaliação da Conformidade Orgânica–OPAC), recognized by the Ministry of Agriculture, Livestock and Supply (Ministério da Agricultura, Pecuária e Abastecimento–MAPA), which operates in the Sertão do Araripe and Sertão Central territories of the state of Pernambuco (Figure 01), formed in 2012, with 11 groups of farming families.

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[9] The OPAC is an innovation in the Brazilian law framework for the certification of organic production, in which farming families can constitute themselves as an accreditation body for organic certification, replacing the Audit Certification modality, commonly carried out by external agents (public or private third parties). This modality has been called "Participatory Certification".

Figura 01 - Delimitação da área de atuação da Ecoararipe - PE/Brasil

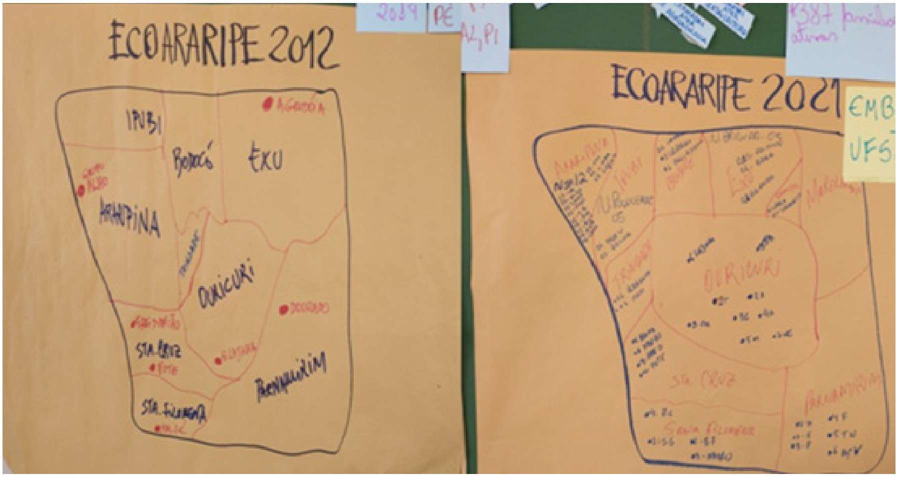


(Source: Popular and Scientific Consortium for AVACLIM/Brazil).

Currently, the association has 428 active members in 48 groups of agroecological farming families, organized into 06 Nuclei by geographic approximation, covering all 10 municipalities in the territory of Araripe (Araripina, Bodocó, Exu, Granito, Ipubi, Moreilândia, Ouricuri, Santa Cruz, Santa Filomena and Trindade) and also Parnamirim in the microregion called Sertão Central, in the same Brazilian state.

Over the years, the organization of the groups and their territorial expansion have been modified, cau-

Figure 02–Mental maps created with ECOARARIPE associates and partners.



(Source: Field research—AVACLIM/Brazil, 2022).

sed by the experience consolidation dynamics itself, as shown by the Mental Maps (past and present) presented below (Figure 2).

As part of its activities, Ecoararipe participates in 03 spaces for the commercialization of agroecological production (Empório Kaeteh in Ouricuri, Espaço de Comercialização Agroecológica–ECOA in Araripina and Espaço de Comercialização da Agricultura Familiar in Santa Cruz) and in 07 agroecological fairs within the territory.

As a civil society organization, ECOARARIPE develops its work and institutional action by integrating itself into local and regional networks and social articulations.

More directly, with the Araripe Farmers/Experimenters Network (Rede Araripe) and the Regional Committee for the OPACs (network of 07 OPAC in the Brazilian semi-arid region to resolve their own issues and in contact with fair trade companies for commercialization of the production of cotton and other products planted in agroconsortia) and, also, indirectly, with the Semi-Arid Articulation (ASA–Articulação no Semiárido), National Agroecology Articulation (ANA—Articulação Nacional de Agroecologia) and with the Northeastern ATER Agroecology Network (Rede ATER Nordeste de Agroecologia), through the social articulation led by the NGOs CAATINGA and CHAPADA.

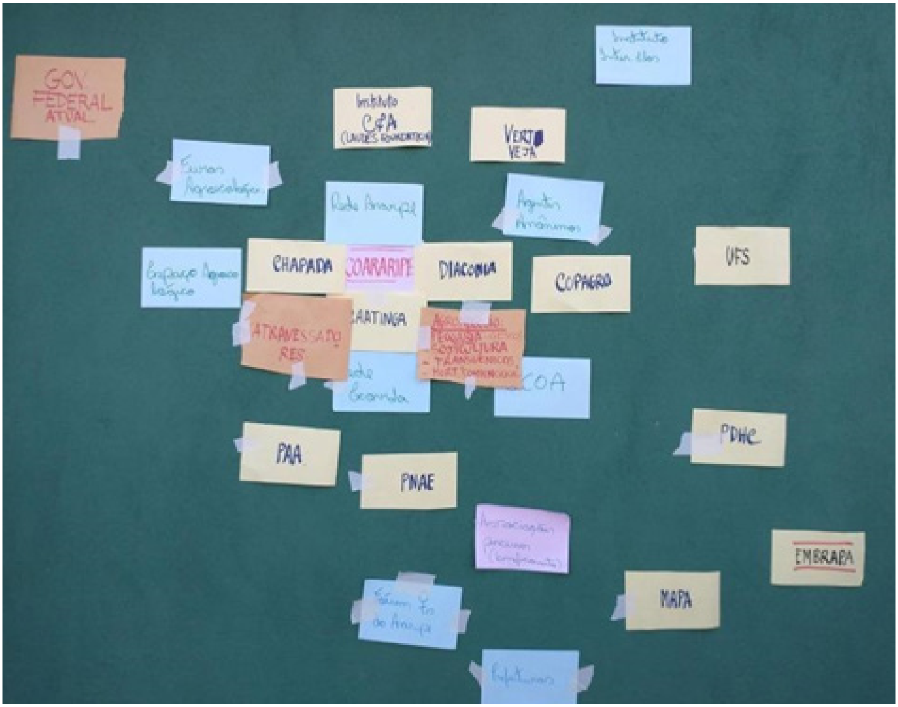
It has the support of the NGOs CAATINGA and CHAPADA with permanent technical advice; financial support from DIACONIA, through Instituto C&A; and Laudes Foundation, Porticus Foundation, Banco do Brasil Foundation (Fundação Banco do Brasil–FBB), and BNDES (Brazilian National Bank for Economic and Social Development), through CAATINGA and CHAPADA; of COPAGRO in commercialization; of CRESOL with credit and other financial instruments; and of the Araripe Women's Forum (Fórum de Mulheres do Araripe), providing advice and training on

gender and women's rights. It also participates in social articulations, dialogues and political incidences together with the Municipal Councils for Sustainable Rural Development (Conselhos Municipais para o Desenvolvimento Rural Sustentável–CRMDSs), Rural Workers Unions (Sindicatos de Trabalhadores Rurais–STRs), groups of women and youth and local community associations of family farmers and agrarian reform settlements.

The Venn Diagram used as a participatory methodology of data collection demonstrates this broad field of the experience's relationships. Figure 03, shown below, expresses the more local/territorial relationships established by Ecoararipe, such as the international ones, but which, in some way, exert some kind of intervention over the experience. Analysing the diagram below, we can locate other partner civil society organizations, funders and public bodies/public policies, for example, that have been fundamental for the consolidation of the association.[10]

[10] The Venn Diagram methodology makes it possible to assess the set of organizations and institutions that are more or less important for a given group, organization and/or community, as well as to assess the dynamics of these institutions' performances regarding the focus group of the intervention. At the end of this activity, it is possible to identify and understand the articulation dynamics of the group under assessment relating to the most active partners, in addition to pointing to the need to seek to bring together important organizations that are distant in their work with the group/community under analysis. (MARINHO; FREITAS, 2015).

Figure 03–Venn Diagram prepared with ECOARARIPE associates and partners.



(Source: Field research—AVACLIM/Brazil, 2022).

Within the scope of agroecological production, ECOARARIPE's main productive activity is vegetable production in agroecological consortia (Figure 04), with the production of healthy foods and improvement of the family economy, where organic cotton figures as an element of great significance in the generation of income. The entire production process has an agroecological basis, with soil fertility conservation and management

practices; pest and disease management that allows, for example, coexistence with the boll weevil (Anthonomus grandis), which is one of the most important pests for the crop, among other biological threats.

The agroecological consortium combines in perfect harmony the production of food for families, feeding for animals and products for the markets, following an important strategy of family groups in the coexistence with the semi-arid region: the insertion of consortium products in fairs and differentiated markets. This system enables better remuneration based on organic certification, access to and social construction of markets (fair trade and organic market), as well as strengthens local social management of production processes, certification and commercialization of the production.



Figure 04–Agroecological consortia implemented by ECOARARIPE associates.

(Source: Field research—AVA-CLIM/Brazil, 2022).

Such agroecological consortia enhance the productive diversity of food for the ECOARARIPE members (Figure 05), in an experience in which the participation of women and youth in decision-making spaces deserves to be highlighted at local (Agroecology Groups), municipal (Community Centres) and territorial (OPAC Coordination and Committees) levels, as well as having an effective presence in the products processing and commercialization. This gives them more participation in decision-making and improved financial autonomy.

Figure 05–Productive diversity arising from agroecological consortia cultivated by the ECOARARIPE associates.



(Source: Field research—AVACLIM/Brazil, 2022).

In the political context in which our country found itself until 2022, several rights were under threaten, such as, for example, the access to public policies by family farmers in the territory. Those families experienced a strong process of stagnation and setbacks for the structuring and knowledge building as a consequence of a change of course in several public policies, weakening and destroying spaces and instruments for the participation of civil society organizations and movements in debates and policy-making. Such processes in the period between 2019 a 2022 constituted a serious threat to agroecology and to the role and autonomy of family farmers and their organizations.

Despite this situation, ECOARARIPE configured itself as a successful experience, showing resilience and capacity in the face of those imposed adversities. The collective initiative by the families, and the understanding of the importance of work and cooperation are reaffirmed in their daily life as one of the ways to continue and expand the experience. In addition to provide market access, ECOARARIPE is an opportunity for its members, but, above all, for women who have played a leading role, both in management and in participation

as partners and part of local groups, confirming the political and transformative character those experiences can make arise.



ReCaatingamento*

Agro-ecological Technical Advisory Organisation: Instituto Regional da Pequena Agropecuária Apropriada IRPAA–Bahia.

***Recovery of the caatinga biome through agroecological efforts.**

The experiences of ReCaatingamento have been developed in the semi-arid region of the state of Bahia since 2009, based on the actions of the Regional Institute for Small Appropriate Agriculture and Livestock (IRPAA), with the purpose of contributing to the processes of degraded areas recovery and conservation of the caatinga biome.[11]

The experiences began with initiatives by communities in the semi-arid region of Bahia to recover caatinga areas at different levels of degradation. These experiences are being expanded with public resources, mainly by paying for the materials needed for fencing

[11] The Regional Institute for Small Appropriate Agriculture (Instituto Regional da Pequena Agropecuária Apropriada–IRPAA) is a non-governmental organization based in the municipality of Juazeiro, state of Bahia. Coexisting with the semi-arid region is its biggest and most important goal. Effective solutions, which respect the characteristics of the people and lands of this region, are the alternatives that the institute offers through its various projects. According to IRPAA, for almost 30 years, living in the semi--arid region is knowing how to recognize its value (IRPAA, 2022)–https://irpaa.org/modulo/portugues

the areas defined by the communities as a priority for the implementation of the ReCaatingamento actions. In cases where the communities have not yet managed to get support for the implementation of the ReCaatingamento areas, they continue with their traditional use of the caatinga biome in order to minimize its further degradation.

Currently, these experiences are being developed in partnership with 35 traditional pasture (Fundo de Pasto) and family farming communities (Figure 06), from 14 municipalities of the state of Bahia, Brazil. Since the 1980s, these communities began to mobilize to defend the territory and gain recognition and official ownership documents to their lands as traditional pasture territories.

The main social actors of the ReCaatingamento experiences are the Traditional Pasture Communities that live directly from the standing Caatinga and are characterized by the collective use of land and territory for raising goats and sheep in areas of community pasture and for non-timber extractive production of fruits and fibres from the caatinga biome. Thus, it is possible to state that the existence of such communities depends

on the existence of the preserved Caatinga biome and that such communities promote the conservation of natural assets and resources through their way of life.

Figure 06–Some of the men and women farmers from the community of Ouricuri with the AVACLIM team.



(Source: Project data, 2022).

These communities have in the connection with their relatives by blood and with their religion fellows the main bases of their social, economic and cultural relationships. They have occupied vacant lands remaining from the so-called "sesmarias" (ancient policy of land granting by the

Portuguese crown), having their establishment with the end of the cattle raising cycle in the countryside of the state of Bahia. Some of them feature around 300 years old.

The *ReCaatingamento* experiences take place within the scope of programmes, policies and technologies for coexisting with the semi-arid region, carried out over the last 30 years, initially developed by non-governmental organizations (NGOs), especially those that make up the Brazilian Semi-Arid Articulation (ASA) and later assumed, albeit with some discontinuities, as a programme within the scope of public policies of the federal and state governments.[12]

Governmental programmes to combat desertification and for carbon sequestration are added to the list of technologies to Coexisting with the Semiarid Region, enabling the search for public resources to implement the experience. However, the policy makers tend to create policies that foster huge projects for mining and for wind power generation that threaten the land ownership and

[12] ASA is a network that defends, propagates and puts into practice, including through public policies, the political project of Coexistence with the Semiarid Region. It is a network because it is made up of more than three thousand civil society organizations of different natures—rural unions, associations of men and women farmers, cooperatives, NGOs, etc. To learn more about ASA: www.asabrasil.org.br.

sense of belonging of these communities generating, as a consequence, the lack of interest of the youth in remaining in the community.

Rural communities actively participate in the *ReCaatingamento*: they choose the area to be recovered and decide to draw up a management plan for the extractive area. They carry out all the activities that comprise the implementation of the experience, with emphasis on fencing the areas, planting native and adapted species, in addition to the implementation and maintenance of

Figure 07–Community carrying out maintenance in an area of ReCaatingamento.



(Source: @irpaasemiarido, 2022).

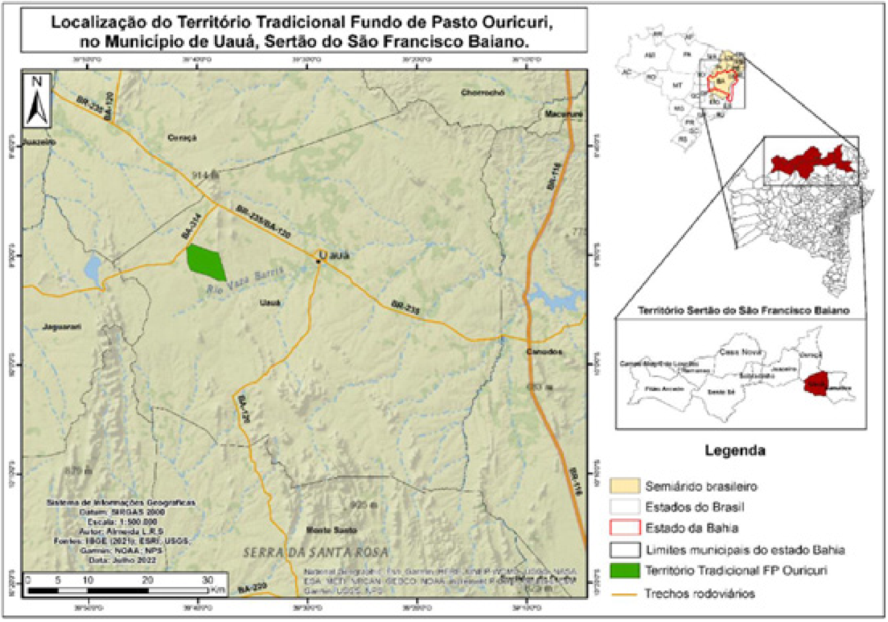
social technologies and practices that contribute to the forest recovery of the caatinga biome and its associated biodiversity (Figure 07).

It is based on the recognition and importance of innovations in the ReCaatingamento experiences, and within the scope of AVACLIM, one of the initiatives studied the active involvement of a community. In this sense, given the set of practices and processes, the community of Ouricuri (Figure 06) was one of those chosen by the Scientific and Popular Consortium of AVACLIM Brazil to demonstrate the success of the experience of ReCaatingamento as a practice of recovery, conservation and sustainable use of the caatinga biome in the Brazilian semi-arid region.

The "Fundo de Pasto" (pasture) community of Ouricuri is made up of 55 families and is located in the rural area of the municipality of Uauá, state of Bahia (Figure 08).

In 2009, the first actions of ReCaatingamento began in traditional communities in the territory of Sertão do São Francisco (the countryside of the São Francisco Valley). Thus, some people from Ouricuri became aware of this practice and spread the idea in the community. These ideas matured until 2016 with the implementation of

Figure 08–Territory's map location of the pasture community of Ouricuri.



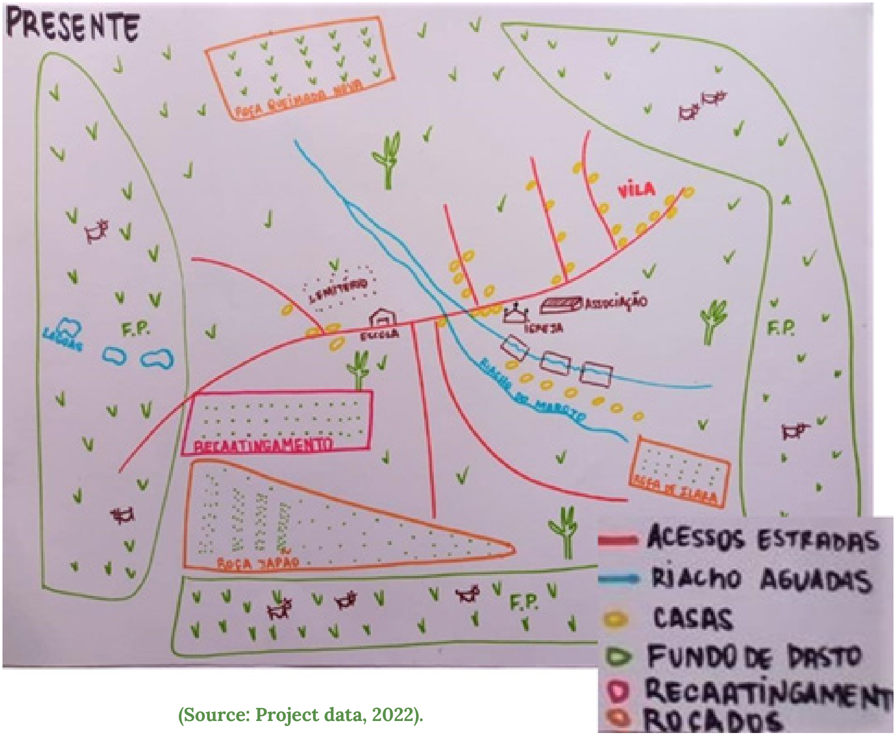
(Source: Almeida, 2022).

the experience in the Ouricuri community. This time has been necessary for the community to appropriate the main practices adopted in the ReCaatingamento initiatives, those interested in participating directly in the initiative and in the definition of the community area that would be fenced, as well as the search for resources and other support for the implementation of the initiative.

Currently, the agroecosystems of the Ouricuri community are divided into four major categories based

on the representation made by members of the community itself (Figure 09).

Figure 09–Map produced by the community with a focus on agroecosystems.



(Source: Project data, 2022).

• Pasture: portion of the territory for collective use, managed through the community management over the natural resources with emphasis on extractive activities of umbu fruit (the fruit from the tree called umbuzeiro—Spondia tuberosa) and extensive goat and sheep raising. In these areas, families keep the caatinga continuously,

without fences, where wild fauna and community family--owned and/or neighbours' herds circulate freely;

- Family Areas (identified as houses in Figure 09): consisting of backyards and facilities/fenced areas near the houses to shelter and handle the animals;
- Roçados*: correspond to small plots of land that have soils with better conditions for cultivation (especially fertility and structure). These areas are deforested, cleared, and used for the cultivation of temporary and perennial crops to feed family and livestock; and
- ReCaatingamento: comprises an area of approximately 52.0 hectares managed with practices that make possible the recovery of the vegetation in the medium and long terms in order to enhance sustainable agricultural extractive activities (ALMEIDA, 2022).

Roçados are plantation areas usually for short cycle crops, like bean, maize and pumpkin.

Of the total of approximately 130 people who make up the pasture community of Ouricuri, it's been verified that the work in the area of ReCaatingamento features a collective essence. However, this initiative involves a group of 25 people from the community, consisting of 15 men and 10 women, among which 06 are youth. This collec-

tive involved in the ReCaatingamento promotes collective actions related to the management and conservation of local biodiversity, meliponiculture and agroextractive activities of caatinga species, with emphasis on umbu (Spondias tuberosa), wild passion fruit (Passiflora cincinnata Mast.) and mandacaru (Cereus jamacaru) in the aforementioned agroecosystem.

Within this long journey rich in teachings, challenges and potentialities, the experience of ReCaatingamento in the Pasture (Fundo de Pasto) Community of Ouricuri has much to inspire us with regard to the processes of agroecological transition in its multiple dimensions and scales. In this initiative, which takes place throughout the semi-arid region of Bahia, there are very important elements for the debate on the promotion of Agroecology in the dry lands of the world that, particularly in Brazil, pervade the perspective of Coexistence with the Semi-Arid Region. Among them, it is worth mentioning:

- The community nature of the ReCaatingamento experience with regard to planning and management practices of the agroecosystem and its exchanges with the other agroecosystems of Fundo de Pasto (pasture community);
- The coexistence and proposition of sustainable strate-

gies and agroecosystems in the face of the challenges of climate change;

- Promotion of food security in local and territorial bases in the Brazilian semiarid region;
- Construction of local and community strategies for the promotion and sustainable management of local agrobiodiversity;
- Exchange of know-hows among the pasture communities involved in the ReCaatingamento initiatives, in order to promote the best practices for their development;
- Dissemination among organizations and other communities in the Brazilian semi-arid region interested in this agroextractive management strategy and conservation of the caatinga based on the experience of Fundo de Pasto communities as a traditional agroecosystem.



Multiplier Agroecological Farmer – Dona Fafá.

Agro-ecological Technical Advisory Organisation: Centro de Estudos do Trabalho e de Assessoria ao Trabalhador (CETRA)–Ceará

Maria de Fátima dos Santos, Dona Fafá, lives in the Jenipapo Community, located in the municipality of Itapipoca, which is part of the territory of Curu and Aracatiaçu Valleys in the state of Ceará. The story of Dona Fafá in her agroecosystem began in 1996, after the rupture of an abusive and violent relationship that forced her to leave her abusive home and return with her four children to her parents' property, where she's been granted an area of 2ha in order to make make a new home and make a living out of it, planting and raising animals. During that period, she was already a member of social collectives, such as the agricultural association of the former community and the Women Rural Worke-

rs Movement (Movimento de Mulheres Trabalhadoras Rurais–MMTR).

It can be said that a milestone in the trajectory of Dona Fafá took place in 2003, with the arrival of the agroecology project called "Caminhos da Sustentabilidade", brought by the NGO CETRA for the implementation of a production unit for self-consumption and aiming access to the market through fairs (Figure 11). In the same year she began accessing the programme called "Bolsa Família", followed by a major achievement: the construction of the "casa de farinha" (a manioc processing manufacturing facility to produce the so-called manioc flour), to be installed on her property. Excited about the project, she starts a process of transforming the 1.2 ha area, increasing the diversity of plants, aiming at the possibility of having access to the municipality of Itapipoca for the rural fair and also to sell her goods to intermediaries who would come to her door.[13] [14]

THaving a greater social participation through the rural union and with her association to CETRA, she is

[13] The Center for Work Studies and Worker Advice (Centro de Estudos do Trabalho e de Assessoria ao Trabalhador—CETRA) is a civil society organization with more than 40 years of experience in the field of agroecology and Coexistence with the Semiarid Region, socio-environmental actions, solidarity socioeconomics, strengthening of social organizations and networks, rural youth, women and communication.

[14] Bolsa Família (Family Grant) is a federal governmental conditional money transfer programme that benefits families in poverty and extreme poverty.

Figure 11–Dona Fafá side by side with the "Caminhos da Sustentabilidade" sign, which she keeps by the entrance to her production area.



(Source: Field research—AVACLIM/Brazil, 2022).

nowadays supported by the State technical advisory staff. In 2007, she leads the process for the foundation of the Associação Comunitária dos Agricultores em Transição Agroecológica (Community Association of Family Farmers in Agroecological Transition), of which she became president for. She starts, then, a long journey of participation in territorial agroecology meetings, accessing social technologies that made it possible to increase the storage capacity of water for agricultural

production (run-off cisterns) and wastewater treatment (biowater), expanding the agroforestry system and its capacity for commercialization and income generation through the Network of Fairs (Rede de Feiras). In 2018 she accesses her retirement benefit, further increasing her income, thus enhancing her production processes.

Dona Fafá stands out as a feminist woman, a local fair marketer and an agroecological multiplier. She coordinates the Network of Agroecological and Solidarity Fairs (Rede de Feiras Agroecológicas e Solidárias) in Ceará; she is a member of the Network of Agroecological and Solidarity Farmers in the Territory of Curu and Aracatiaçu Valleys (Rede de Agricultores Agroecológicos e Solidários do Território do Vale do Curu e Aracatiaçu), and coordinator for the Women Rural Workers Movement (Movimento de Mulheres Trabalhadoras Rurais–MMTR/NE). Dona Fafá also participates in the State Forum for Life in the Semi-Arid Region (Fórum Estadual pela Vida no Semiárido), coordinates the community's seed house, develops educational work with the youth in the church, works in the women's movement in the community and presides over the Community Association of Jenipapo (Associação Comunitária do Jenipapo),

holding a great local organizational role. In addition, she develops a work in the community with medicinal herbs, teas, and others, like the home-made traditional plant-based cold extraction beverages and the plant-based syrups, called respectively "garrafada" and "lambedor".

Her trajectory in agroecology began with the training for agroecological multipliers in the scope of the "Caminhos da Sustentabilidade", promoted by CETRA-CE, under the umbrella of the project FlorestAção. Dona Fafá tells us that she's already been an agroecological farmer even before starting the training, she just didn't know it. With the help of the projects described, she received good support with inputs (water pipes, a water reservoir, wires) and had access to several public policies to foster her productive infrastructure. She also received some social technologies for storage (cement-plaques cisterns of 16 and 52 thousand litres) and for wastewater reuse (biowater), enabling greater hydric potential, as well as the continuity of her work.

In the course of her career, Dona Fafá founded the agroecological and solidarity fair in Curu and Aracatiaçu Valleys. As a result of this experience, other fairs emerged, such as the fair in Fortaleza (state capital of Ceará),

which takes place weekly, and a fair held continuously at the city hall headquarter for the municipality of Itapipoca, Ceará (Figure 12). In the midst of the pandemic crisis, caused by the COVID-19 virus, she challenged herself and innovated in her way of selling her goods, this time using the Internet.



Figure 12–Dona Fafá at the agroecological fair in Fortaleza, CE.

(Source: CETRA).

Currently, Dona Fafá manages her agroecosystem alone in an area totalling 2.5 hectares, with a great diversity of subsystems, such as: agroecological backyard, edible gardens, agroforestry system, "roçado" (a clearing with short cycle crops), livestock raising (chickens, sheep, pigs), manioc processing manufacturing facility, among others (Figure 13a).

Figure 13–Agroecosystem of Dona Fafá: a) Current map; b) Natural source of water (water stream); c) Agroforestry system; d) Hen house for indigenous chicken.



(Source: Field research—AVACLIM/Brazil, 2022).

In this region, water is a scarce resource, but Dona Fafá has a natural source of water (a water stream) that makes it possible to irrigate the orchard and the edible gardens (Figure 13b). This area is very strategic for her, considering that the reason why she still has the water stream clean and available is because of her work on recovering and preserving the surroundings of that stream. Other water resources available are rainwater collection and storage tanks (first and second water options, 16 and 52 thousand litres respectively) and a well, all used for production and general household

consumption.

In this area, many inputs are mobilized: seeds, plant seedlings, manure, fertilizers, forage, plant-based medicine (to control worms in livestocks), natural mixtures (for fertilization and control of plant diseases) and foliar fertilization (bio-fertilizers), generating a variety of fresh foods (vegetables, fruits, beans, broad beans, maize, sweet potatoes, pumpkin, peppers, sweet peppers, medicinal products, eggs), as well as processed or semi--processed foods (maize couscous dough, manioc flour, "xarém", maize meal, cakes, biscuits, corn pudding, marmalades, jellies, coconut candy, fruit pulp, natural medicinal syrups ("lambedor"), sheep meat, and chicken meat, being this latter originated mainly from the chickens classified as "galinha de capoeira", that means the birds are raised semi-confined, feeding freely in the environment during the day hours.

It's also turned to be evident, throughout the experience of Dona Fafá, that a great amount of capital has been mobilized. A large part of the capital generated from what has been produced and sold, together with other funds accessed through bank credit and pension, returns to the system in the form of reinvestment, ena-

bling a greater momentum of technical innovation for the processes. This momentum generation for the processes occurs through the acquisition of equipment and materials to enhance the production infrastructure (Figure 13), as well as access to the Internet, making it possible to broad the connection with networks in general, boosting her sales and also improving her leisure time.

A large network of actors, who work on different scales, with different levels of effectiveness, have been interacting with Dona Fafá throughout all her journey. International organizations and institutions (Manos Unidas) and national institutions (Banco do Nordeste, Ecofort/Fundação Banco do Brasil, Petrobras, Brazilian Central Government and some ministries (MDA—Ministry of Agriculture; MDS—Ministry of Social Development), which fostered processes with their funding. A rich and diverse regional network of federal research institutions (Embrapa), academic institutions (Universities and Federal Institutes), governmental agencies (State Government, Ematerce, City Halls), other groups (Articulação Semiárido-ASA, labour unions, networks, fairs) and, mainly, the NGOs Cáritas, CAATINGA and CETRA, which maintained an intertwined relationship with

Dona Fafá's experience, enhancing several and various socio-productive processes.

In addition to these organizations and institutions, she holds important relationships in the local context with social collectives and people that make possible the production and reproduction of life in the agroecosystem.

Some challenges have been particularly difficult. She lives alone and there is a huge concentration of activities inside and outside the agroecosystem, in all the spaces she interacts with, hindering her expansion capacity. Another important factor in this regard concerns the continuity of the works, as there is little or no possibility of succession when thinking about her descendents. However, this large social participation observed has been a lever, personally speaking and also for the agroecosystem, enabling the production of a great diversity of products and high quality feeding for her family, in addition to keeping her physically sound and mentally active.

Here it is worth highlighting and recognizing that this whole process, experienced by Dona Fafá, was made possible by an "agroecological network" of organiza-

tions that have been working in the field of agroecology for a long time, implementing, monitoring and enhancing those collective and individual processes in the territories of the state of Ceará. Specifically with Dona Fafá, CETRA played and still plays a fundamental role, as it was the institution that triggered the whole process and still keeps very close relationships that encourage the production and reproduction of the experience.



Adaptation to the method: what does the use of participatory methodologies reveal to us?

The proposal of AVACLIM allowed us to adapt the method to the Brazilian reality, as we sought to answer fundamental questions for us, like: how can this project strengthen the underway agroecological transition processes in the country? To what extent does the process proposed by AVACLIM allow us to make experiences visible, in order to learn from them and to replicate them?

Thus, the methodology has been developed in a participatory way, built through exchanges between all the subjects involved in the field research process, seeking to recognize and value the different know-hows, perceptions and narratives, as shown in Figure 14, below. In this way, the analysis appears based on the reality brou-

ght by each subject, family and collective experience, being essential for a critical reading of reality, allowing a quantitative and qualitative analysis of the data.



Figure 14– Participatory construction of Mental Maps, Timeline and Venn Diagram with ECOARARIPE.

(Source: Field research— AVACLIM/Brazil, 2022).
Maps, Timeline and Venn Diagram with ECOARARIPE.

We sought to understand the perception of the subjects involved in the processes (technical teams, families, groups, partners and local actors, managers) based on careful listening and joint reflection, allowing us to perceive possible institutional changes, and to think about the trajectories for each experience, as well as about the advances and limits. In this process, the choice for the participatory methodology stands out, which

allowed us to bring the methodological proposal closer to the systematized realities and make it understandable by all.

These experiences, as well as their stories/trajectories, represented a fertile field for us to use participatory methodologies that enhance the collective construction of knowledge, in a horizontal and creative way.

Faced with a wide range of possibilities, within the scope of this publication, we chose to describe and analyse the uses of the Mental Map, the Timeline, the River of Life and the Venn Diagram.

Mental Map—Past and Present:

As a representative drawing of the space or territory that is being object of reflection, the Mental Map becomes a tool that allows discussing different aspects of reality, in an expanded and critical way. It makes it possible to record and visualize, in a schematic way, the different parts of the community/territory, as well as the social infrastructure and existing services and their distribution in the different identified areas, according to the vision and participation of the participants themselves and their construction.

The use of the mapping methodology in the activities

carried out together with the experience of ReCaatingamento in the community of Ouricuri, for example, had as a guiding axis the need to reflect collectively, starting from representations of the community itself, the past and the present of issues, considering: the occupation of the space, the agrarian structure and its practices, and the structural characterization—the socio-spatial organization of the community.

The use of the Mental Map methodology has been important to understand the resources and functioning of the different agroecosystems managed in the community, among which the ReCaatingamento itself. From this, it was possible to collect data on the process of implementation of the initiative, mobilized resources, collective actions, infrastructure, etc.

In order to create the maps for the Ouricuri community, its subjects have been divided into two different groups, in order to enable a better use of resources and materials (drawings), to allow the deepening of discussions within the groups, motivating the sharing of reflections in the large group, made up of all the participants.

Figures 15 and 16 illustrate the moment of elaboration

Figure 15–Construction of Past and Present Maps by the Ouricuri/Fundo de Pasto-Uauá/BA Community.



(Source: Project data, 2022).



Figure 16–Construction of Past and Present Maps by the collective of ECOARARIPE associates and partners.

(Source: Project data, 2022).

of the maps, respectively, in the Ouricuri Community (Fundo de Pasto-Uauá/BA) and with the collective of ECOARARIPE associates.

In these two cases, as a result of the collaborative work, two maps were produced, for which the project team summarized the collective and complementary representations socialized during the presentation of the Past and Present Maps, according to the views of the farming families that were part of the project groups (Figures 17, 18, 19 and 20).





Figure 17—Maps prepared by the Ouricuri Community/Fundo de Pasto-Uauá/BA.

(Source: Project data, 2022).



Figure 18—Maps prepared by the collective of ECOARIPE associates and partners.



(Source: Project data, 2022).

The Mental Map strategy also allowed for the creation of a space for discussion and reflection on the maps produced by the male and female farmers participating in the activity.



Figure 19—Presentation and discussion of the maps produced by the community

((Source: Project data, 2022).

At this time, they were invited to present their productions, promoting leadership, self-knowledge and debate, as well as allowing everyone to critically read and/or re-read the trajectory of their stays, changes and transformations in the space, in the agrarian structure and in the socio-spatial organization of the community. In this sense, in the Ouricuri community, it has been possible to highlight the perception of the participants regarding changes in land use and the adoption of agroecological practices that enhance:

- Environmental conservation and caatinga agricultural extractive activities in pasture (Fundo de Pasto) and ReCaatingamento agroecosystems;
- Access to water resources, especially through the capture, storage and efficient use of rainwater in the different agroecosystems of the community;
- The need to demarcate the boundaries of the territories of the Fundo de Pasto Ouricuri traditional community, with the respective recognition and ownership documents granted by the State;

The Mental Maps created to reflect on the experience of ECOARARIPE (Figure 20) were fundamental to demonstrate the organizational strategies and the very

expansion of the experience, constituting other nuclei and reaching other municipalities within the region.

Figure 20—Mental Maps produced by the ECOARARIPE collective.



(Source: Project data, 2022).

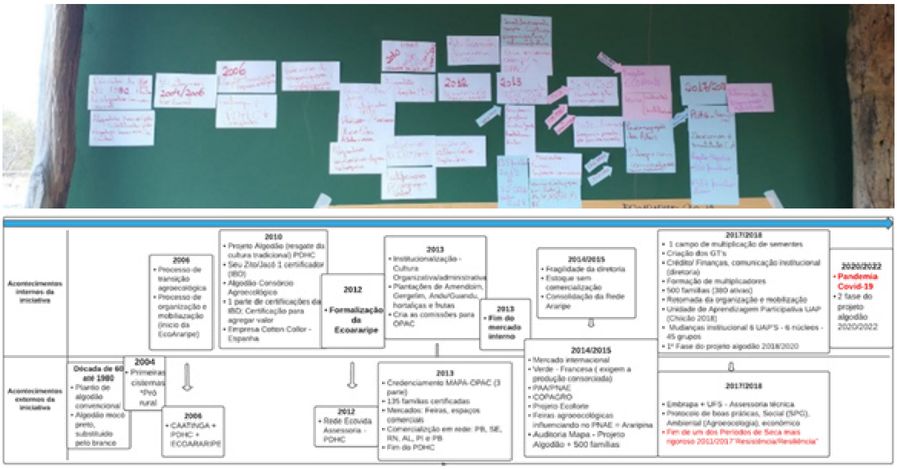
Timeline and River of Life methodologies

The Timeline studies the chronological order and has preponderance over the temporal discussion of the experiences to be analysed, and the main guiding question is: what are the outstanding facts of this reality. As you remember, the facts are presented and located on a straight line drawn horizontally, according to the proposed year. It is, then, about characterizing each event, thus building a view of the history of that particular so-

ciety, institution, project, etc.

In the ECOARARIPE experience, it has been decided to use the Timeline as an instrument for surveying the trajectory of the initiative (Figure 21).

Figure 21—Timeline of the ECOARARIPE experience (conceived and digitized).



(Source: Project data, 2022).

The methodology called River of Life constituted an adaptation by contextualizing the Timeline.

The construction of the ReCaatingamento River of Life sought to systematize a temporal representation of the initiative, illustrating its trajectory of change since the "sourcing water stream", which have put into flow all the events, subjects, organizations and processes related to the origin of that experience and to its

"water courses", in other words, the "river bed". In the river bed, the paths that the ReCaatingamento's River of Life has travelled and still travels can be identified and understood, and it is also possible to point out what is in its course or on its "riverbanks", as well as in its "river tributaries", in other words, what feeds the experience and the place where that river flows to.

Figure 22 illustrates the ReCaatingamento's River of Life, collectively and collaboratively produced by the community of Ouricuri, with the mediation of the Popular and Scientific Consortium of AVA-CLIM Brazil.



Figure 22—River of Life from the ReCaatingamento built together with the Ouricuri Community.

(Source: Project data, 2022).

Thus, as well as in the Timeline, in the River of Life, associated with other strategies such as the Mental Map and the Transversal Walk, it was possible not only to understand the socio-historical trajectory of the

ReCaatingamento experience, but also to: identify milestones of change expressed in the events, internal and external interventions by people and/or organizations, the absence and/or presence of the State and its policies, connections and tensions throughout the processes of change in the community and its territory.

In practical terms, as in the other methodologies, River of Life started with prior and systematic planning by the mediation team, preparing a script for problematization based on four generating axes: 1) Origins of the initiative and general motivations; 2) Identification of milestones (periods of time and important changes); 3) Deepening and reflections on such milestones; and 4) Identification and assessment of costs and benefits along the entire trajectory.

As a participatory and dialogical process, the construction of the ReCaatingamento's River of Life gathered all the people present in a large circle, in which it was possible to access collective memories permeated with subjectivities and unique understandings that, converging into that space, allowed us to navigate through the history of that experience.

As the main contributions of this methodology

and its adaptations to the debate on the agroecological transition, based on the trajectory of the ReCaatingamento experience in the Ouricuri Community, we highlight the collective recovery of the trajectory of the initiative in its initial events and, treading through it over time, the challenges overcame and those to be overcome, as well as the main partners and actions undertaken by the community and its social articulations. The historical synthesis of the ReCaatingamento produced by AVACLIM's technical team in this discussion was also the subject of discussion at later times with the community, in order to share the history of the experience with other community members and partners (Figure 23).

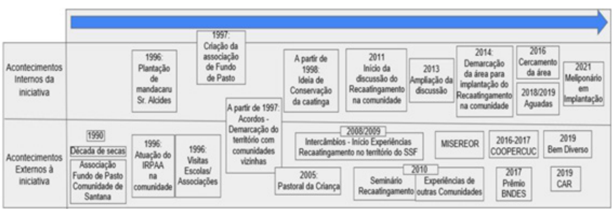


Figure 23—Systematized River of Life of the trajectory for the ReCaatingamento experience in the community of Ouricuri

(Source: Project data, 2022).

It is worth highlighting in this illustration (Figure 24), the mobilizing role of the community's internal leaders and their external social articulations, in order to enhance the processes of training, debate and mobiliza-

tion of internal and external resources throughout the trajectory of the initiative. Such actions took place with the important performance of organizations from the communities of Fundo de Pasto and IRPAA as agents of Technical Assistance and Rural Extension (Assistência Técnica e Extensão Rural—ATER), which organized exchange actions, training, mobilization of new partners and fundraising, enabling the development of the Re-Caatingamento with the community and 34 other experiences in the semi-arid region of Bahia.

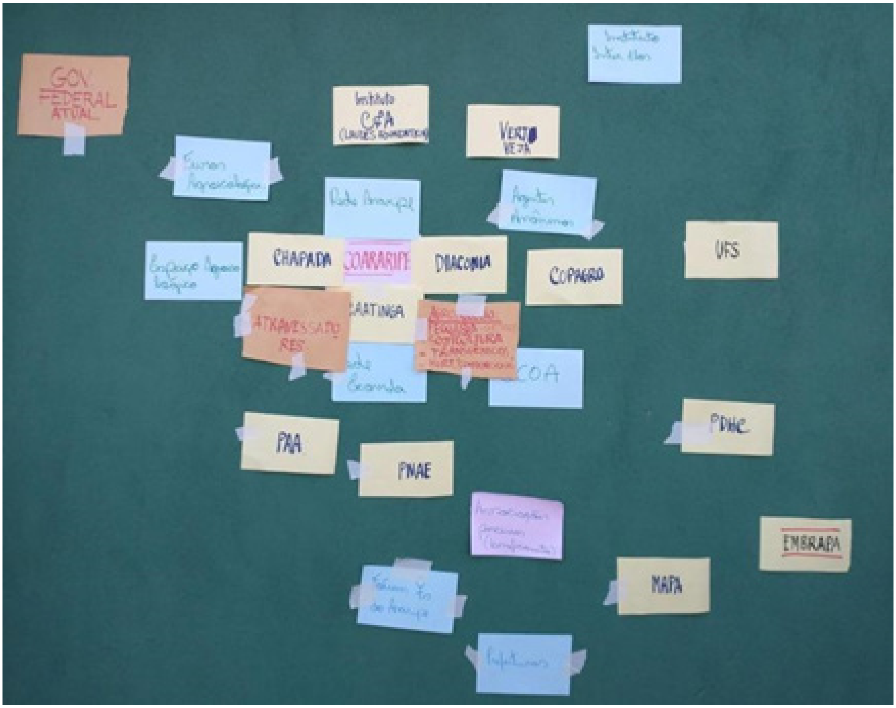
Venn Diagram methodology

It is a diagram made of paper cards of different sizes, arranged in order to represent the relationships among them (Figure 24).

This is a tool originally from set mathematics, adapted to represent the relationships between different groups of a society. Each paper card will represent, with words and/or drawings, a group (formal or informal) about the regarding society (such as a municipality, a borough, a region, a university, a country, a civil society institution).

The size of the card represents the power of that group, that is, its effective ability to achieve its goals. The higher the power, the larger the card size. The dis-

Figure 24—Venn diagram created with ECOARARIPE.



(Source: Research data, 2022).

tance between the cards represents the relationship among such groups. If those are partners and/or collaborators, they will be close to each other, and may even overlap one another, partially or fully. If the groups have different, contrasting or antagonistic objectives, conceptions and/or practices, this will be represented by the greater or lesser distance among them. The cards are placed on the wall, floor/ground or any other base,

where strips of paper can be used to facilitate the visualization of the interrelationships when the design begins to become more complex.

How were these methodologies used in each of the experiences and what did they reveal to us?

The Mental Maps brought the reading of the territories in which the three experiences are inserted. They are the ones who gave us the size of the design of each agroecosystem and the relationship among the subsystems (livestock raising, plantation, water supply, etc.).

Such tool also allowed us to understand the relationships that ECOARARIPE, represented by its associates (and the Ouricuri Community, Fundo de Pasto, and Dona Fafá) establish with their surroundings, either with groups of other families, which are located in the surroundings, either with a set of flows, which organize the dynamics of the experience.

The Mental Maps also became, in this experience, rich moments for reflection on the evolutionary trajectory for each experience, at the moment when they allow to think about the past and the future, not merely in a comparative perspective, but to understand each moment/step of the experience and design future ac-

tions/constructions.

The Timeline and the River of Life were the main tools in the historical reconstruction for each experience. From this historical reconstruction, it has been possible to raise the different moments experienced, highlighting obstacles and advances experienced within the experiences themselves. These, in turn, signal the limits and potentialities, which delimit the characteristics of continuity and strengthening of each one of them, or (unfortunately) the moments of crises/difficulties faced. The Timeline and River of Life allowed us to remember each of the experiences, allowing us to listen attentively, but also to dialogue among the different narratives of the actors who are the builders of the experiences, such as the farmers themselves, the technical advisory services (NGOs) and we, AVACLIM team, by that time working as facilitators/mediators of collective construction processes of agroecological knowledge in the semi-arid region.

Venn diagrams revealed the agents that intervened in the experiments. Such tool demonstrates that the experiences have a high degree of relationships among, whether with local, municipal, regional and even in-

ternational institutions/organizations. In addition to allowing the assessment of these presences/absences of institutions/organizations, it was the Venn diagrams that allowed us to analyse the positive or negative influence over the experiences. Such reflection is central for the experiences to (re)construct their perspective over the correlations of political/economic and social forces, which demarcate the field of their action.



Main learnings

Our experience of participating in the project AVACLIM—Agroecology, Ensuring Food Security and Sustainable Livelihoods, Mitigating Climate Change and Restoring Land in Dry Regions—allowed us to return to field activities in the face of the COVID-19 pandemic, as well as a consequent rethinking about the agroecological transition processes experienced and implemented in the Brazilian semi-arid region.

Far from trying to standardize the semi-arid region, we seek to highlight its diversity and complexity based on the choices of systematized experiences, understanding what are the common issues (environmental, social, political, economic, cultural), but also what are the particularities of each territory that make up this important region.

The spatial delimitation of the Brazilian semi-arid region has been undergoing constant modifications, according to different political and economic interests, but it also reflects the ability of different actors to dispute and build narratives about what it is, how it is delimited (which characteristics) and, above all, who are the subjects who live and reproduce in this region.

Therefore, AVACLIM arrived as an important opportunity to strengthen the processes experienced by local actors and enabled us to bring up different subjects to think together about experiences and learn from them about coexisting

with the semi-arid region. In addition to enabling collective thinking on how to overcome the historical problems that accompany us.

What are the keys to possible readings to understand these experiences and get as close as possible to reality? We believe that the AVACLIM Method provided some possibilities for this, both in terms of theoretical and technical analysis, as well as the possibility of building new indicators of efficiency/effectiveness and sustainability of agroecological experiences in the SAB* and the processes of agroecological transition. *SAB: Brazilian Agroecological System—Sistema Agroecológico Brasileiro.

Going to the field has been a challenge because, among other issues, it happened during the COVID-19 pandemic. This step was fundamental to streamline local processes and strengthen the Popular and Scientific Brazilian Consortium. During the field experience we realized how much people were missing social contact, being together and being able to collectively reflect on their experiences.[15]

We have acknowledged the experiences of different contexts and territories in a rich exercise of careful, respectful listening and collective learning, showing the strength of agroecology in the consolidation of a community of practices based on the agroecological experiences of the Brazi-

[15] To carry out all the activities mentioned we respected all the security protocols proposed by the WHO and FIOCRUZ (https://portal.fiocruz.br/coronavirus/material-para-download).

lian semi-arid region and in the enhancement of themes and processes regarding historically marginalized subjects, which are the themes builders.

Coexisting with the semi-arid region and doing agroecology in this territory are key ideas in political and social mobilization, especially with regard to the (re)signification of social practices, giving new meanings and significations to this "know-how to do" of communities and people. These processes permeate the need to rebuild a relationship with nature that is based on harmony and completeness, respect for the different subjects that make up families, in different family arrangements and in different and diverse territories.

Recognizing agricultural practices, relationships with territories and biomes, as well as the different subjects, their knowledge and expertise, is a fundamental part of the process of strengthening Agroecology and Coexistence with the Semiarid Region. It is about looking to the past, but pointing to the future.

Thus, the experiences reported here demonstrate how men and women farmers relate to the environment, whether in their productive backyards and other agroecosystems, or in extractive practices and in social and collective processes, as we saw in the experience of ReCaatingamento and ECO-ARARIPE.

We can also see the cultivation of native species and breeds, the preservation and maintenance of native seeds, the

appreciation of traditional knowledge, the conservation of agrobiodiversity, the access to markets, as well as the reaffirmation of other economic logics, which also pass through solidarity economy, reciprocity, and above all, the production of healthy food and the reaffirmation that we are all co-dependent and ecologically dependent (HERRERO, 2019). In this way, the work of taking care, carried out by women, is fundamental for the reproduction of life. For Yayo Herrero:

> *Reorienting the economy towards a fair and sustainable model is an urgent task. Conventional perspectives are unable to do so because the set of instruments and theories that forged them, based on just a few economic indicators, do not account for what really sustains human life* (HERRERO, 2020, *p.* 17).

The experiences analysed here, based on the use of the methodological tools that we have highlighted, demonstrate a pungent capacity to re-signify social practices and to strengthen the subjects in recognizing that they are essential to the processes of production, organization and collective care.

These reaffirm collective and individual knowledge that go beyond a capitalist, Cartesian logic, allowing the construction of well-being as an alternative to development

and not as an alternative to capitalist development, pointing to the construction of other perspectives and horizons that, when built in networks, strengthen the resistance, the daily struggle of women, youth, diverse subjects and dissidents such as the LGBTQIA+ community, native Indians and traditional peoples, such as pasture and quilombola communities, and all social subjects who are historically excluded and decimated by the hegemonic system.

We perceive some "common" limits to the experiences, and that, sometimes, reflect the little capacity for critical and systemic intervention beyond the so-called productive issues. Thinking about the agroecological transition in the Brazilian semi-arid region, the systemic conversion processes based on public policy arrangements and/or projects, must incorporate social and cultural dimensions. Therefore, it is necessary to deal with the breaking of old chains that still guide the "traditional agroecological practice", by facing all types of violence, combating racism and sexism, confronting LGBTQI+phobia, destroying nature centred on the logic of agricultural productivism, among others.

The interconnections of knowledge and experiences are trans-generational and provide a rich exchange of experiences that enable constructions and reconstructions, considering that thinking from an agroecological point of view is to think about a collective, networked structure that strengthens not only the actors involved in these processes,

but also respects and strengthens the environment, seeking alternatives for its safety and preservation.

In this sense, we still need to advance in social and environmental issues, promoting and stimulating the challenging of the patriarchal power relations that still reign in the family nucleus and that is responsible for the exclusion of women and youth from spaces of decision-making and positions of power. It is urgent experiences to be able to broaden their relationship with nature, recognizing this latter as a subject entitled to rights, which must be respected and preserved. It should not be perceived as a mere supplier of raw materials, but as a mother/sister from whom everything derives. When observing the communities, we still see deforestation practices, garbage and accumulation of plastics in the surroundings of the house, the destruction of riparian forests, the little appreciation of the caatinga biome and its specific and powerful nature.

Still looking at structural issues, we come across the agrarian structure deeply marked by land concentration, which is one of the major impediments to the reproduction of the family farming life style and agroecology. The struggle for Agrarian Reform in Brazil is still a central issue when we refer to family agricultural practices in the Brazilian semi-arid region.

On the same level, there is access to water in the Brazilian semi-arid region and all the concentration of power

that has been historically established in the hands of large landowners and politicians, who have been using water as an asset for bargain to get votes and keep people submissive and, in a certain way, obedient.

Access to water and land are fundamental issues to be addressed based on (and with) the experiences analysed here. The concentration of power on the hands of the "owners of land and water" is a reality still present in the Brazilian semi-arid region.

Therefore, the importance of political incidence at local and national levels and also the need to broaden our conception of politics and how to do politics. We need to recognize the historical exclusion of women and youth from political spaces, just as we need to transform local politics.

We understand that the methodology does not aim to create a silver bullet to all those issues, but the immersion in the experiences allowed us to do this reading from the use of participatory tools and the collective discussion that they generate/enable. The central issue is how can we take ownership over those problems as a driving force for the struggles for political reconfigurations in the territories and, departing from them, to other arenas.

Finally, the know-how of applying the method points to some limits based on our realities and needs, which we are going to point out here in order to move forward collectively towards the construction of the AVACLIM Method and

others that will be eventually inspired by this so important experience.

In this construction of AVACLIM, the systematization of the experiences and the survey of primary and secondary data of the experiences, carried out in the Component 1 of the methodology have been central to approach closely the reality to be studied.

We had complete flexibility for adjustments to the method. We emphasize that it is important to understand the method not only as a sequence of methodologies, but rather from the perspective of triangulation, both methodologies and information generated through and in the circulation of operational information/referrals about the project. Therefore, in experiences in this AVACLIM format, it is essential to improve the communication process established among the different coordination (general, local, etc.) with the local teams, providing broad dialogues and avoiding communication noises that can sometimes compromise the construction process.

In the experiences of ReCatingamento and Dona Fafá analysed here, it became essential to use complementary tools to those mentioned in this publication, such as the transversal walk. Regarding the tools, the importance of building the timeline from the different subjects (women, youth, etc.) has been show of paramount.

These learnings are presented as the maturation of

the practice of an experienced team carrying out works of a dialogical and participatory nature and with scientific research and systematization of experiences. For such a team to act dynamically, it is essential that all the steps/components involved in the method are known from the beginning of the process, as we understand them to be complementary and interconnected. The impossibility of fulfilling this premise can reduce the potential of the methodology by limiting the role of the subjects involved to mere executors and data collection that can make it decontextualized for local demands, whether from farming families, whether from organizations and advisory services.

We point out that AVACLIM and the methodological adaptations we promoted in Brazil, should be tried in other situations/territories/contexts, seeking to simplify the number of steps/components and the instruments that make up each of them, especially the indicators, enhancing their validation as a single, cohesive and precise method.

Finally, as lessons learned, we highlight the challenge to build, collectively, terminologies and concepts in such a wide range of different contexts/realities studied. In this sense, the definition of the theoretical lenses that guide the reflections is a central starting point in any experience of this type. It is a homogeneity of terminologies and concepts, which will allow us greater theoretical and analytical precision when evaluating the collected/systematized data. We also

highlight that such theoretical and methodological choices, more and more nowadays, should favour an intersectional approach, bringing into dialogue the markers of class, gender, gender identity, race, ethnicity, generation and sexual orientation. The women and men who build agroecology in the Brazilian semi-arid region are materialized expressions of living bodies that thrive, love and pulsate, in a complex tangle that brings together land, work and different family forms.

AVACLIM, by allowing the adoption of participatory methodologies and their tools, such as those described here, promoted different encounters, animated different processes of collective construction of agroecological knowledge and contributed to the strengthening of territorial work.

FINAL CONSIDERATIONS

The establishment of the Popular and Scientific Consortium was decisive for the success of the AVACLIM in Brazil. It enabled the reconnection, among the already existing agroecological networks in the country, of organizations, institutions, women and men who, armed with their academic and empirical experiences and, above all, their social commitment to family farmers, focused on the methodologies and their foundations, planned and mediated each field activity in a participatory, systematic and dialogical way.

Also, from the interventions of this very Consortium, it's been possible to systematize each experience reported here WITH its protagonists and, above all, to promote spaces of self-knowledge and recognition that led to critical readings of their own realities, sharing of know-hows, and practices and construction of knowledge.

The participatory methodologies allowed for greater approximation and dialogue with the protagonists of the initiatives and their knowledge. The participatory tools used in its adaptations to the contexts and realities that have been presented, together with the experiences reported here, provided an understanding of the relationships established between farming families, the environment and the socio-political, institutional context, and social articulations of communities and socio-technical assistance organizations.

This approximation and understanding was only possible

due to the work developed by non-governmental organizations and their technical assistance programmes and projects, in addition to the participation of these organizations and the social articulation of communities themselves, socio-technical networks and social movements in the field of Agroecology in Brazil. Such organizations, led by CAATINGA, are part of the Brazilian Semi-Arid Articulation (Articulação do Semiárido Brasileiro), the National Agroecology Articulation (Articulação Nacional de Agroecologia), the ATER Northeast Network (Rede ATER Nordeste) and other collectives that, even with the recent setbacks in access to rights and the National Policy for Agroecology and Organic Production itself, have enabled achievements and resistance in the struggles for the promotion of agroecology in Brazil, particularly in the Brazilian semi-arid region, such as the present work developed within the scope of AVACLIM.

The experience of applying the AVACLIM Method reaffirms the importance of agroecological experiences and agroecological transition processes for maintaining life in the Brazilian semi-arid region, making all its richness and complexity visible. Methods and their methodological instruments are taking shape as they are incorporated by the different actors (technical assistance, farming families, public policy agents and managers) in the apprehension of the data generated for the understanding of reality, as well as in the construction of new strategies to improve production,

income generation (monetary and non-monetary) and new, more egalitarian and fair social relations.

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Arte e Poesia

SISTEMATIZAÇÃO POÉTICA E FACILITAÇÃO GRÁFICA

"A agroecologia está
Para além da produção
Na mulher se transformar
E enfrentar a opressão
A sua postura critica
Tem garantido a politica
No sentido dialógico
Sem a mulher nesse esquema
Nenhum agroecossistema
Seria agroecológico

Desde aprender a plantar
À maneira de colher
Tem que saber semear
Primeiro o nosso saber
Essa atitude sabida
Está no modo de vida
Camponês tradicional
Cada saber processado
Nasceu do aprendizado
De um olhar ancestral

É preciso agradecer
Ao projeto Avaclim
Por conseguir nos fazer
Um projeto bom assim
A força desse instrumento
Floresce no pensamento
De cada uma de nós.
Como a semente no ar
Que a gente possa espalhar
Para o mundo a nossa voz

Porém essa massa critica
De saberes velho e novo
Tem que torna-se politica
No dia a dia do povo
A cisterna tem mostrado
Que um programa de Estado
Quando começa do chão
Faz da agroecologia
Alta tecnologia
De conviver no Sertão

Está no jeito de olhar
Pras as coisas da natureza
A maneira de criar
Esta razão camponesa
Tecnologia é chão
Nasce dentro do Sertão
Dentro do cotidiano
Observando a natura
Praticando a agricultura
Lendo o céu de cada ano

Nesse lugar de mudança
E de consciência astuta
É a mulher que balança
Nossa bandeira de luta
Por ser quem mais sofre a dor
Forjou no peito uma flor
De coração de mulher
Fez do quintal, sua asa
E fez do mundo uma casa
Pra ir pra onde quiser

Não precisa matemática
Nem olhar pela luneta
Pra ver a crise climática
Que se espalhou no planeta
Degelo, seca e enchente
Terra fria, terra quente
Fome, expropriação
Destruir a natureza
Tem sido a maior certeza
De nossa destruição

Porém, por um outro lado
A ciência camponesa
Tem mostrado o resultado
De se sentir natureza
Com a agroecologia
O semiárido que um dia
Foi lugar de enfermidade
Alterou seu caminhar
Pra poder se transformar
Em outra realidade

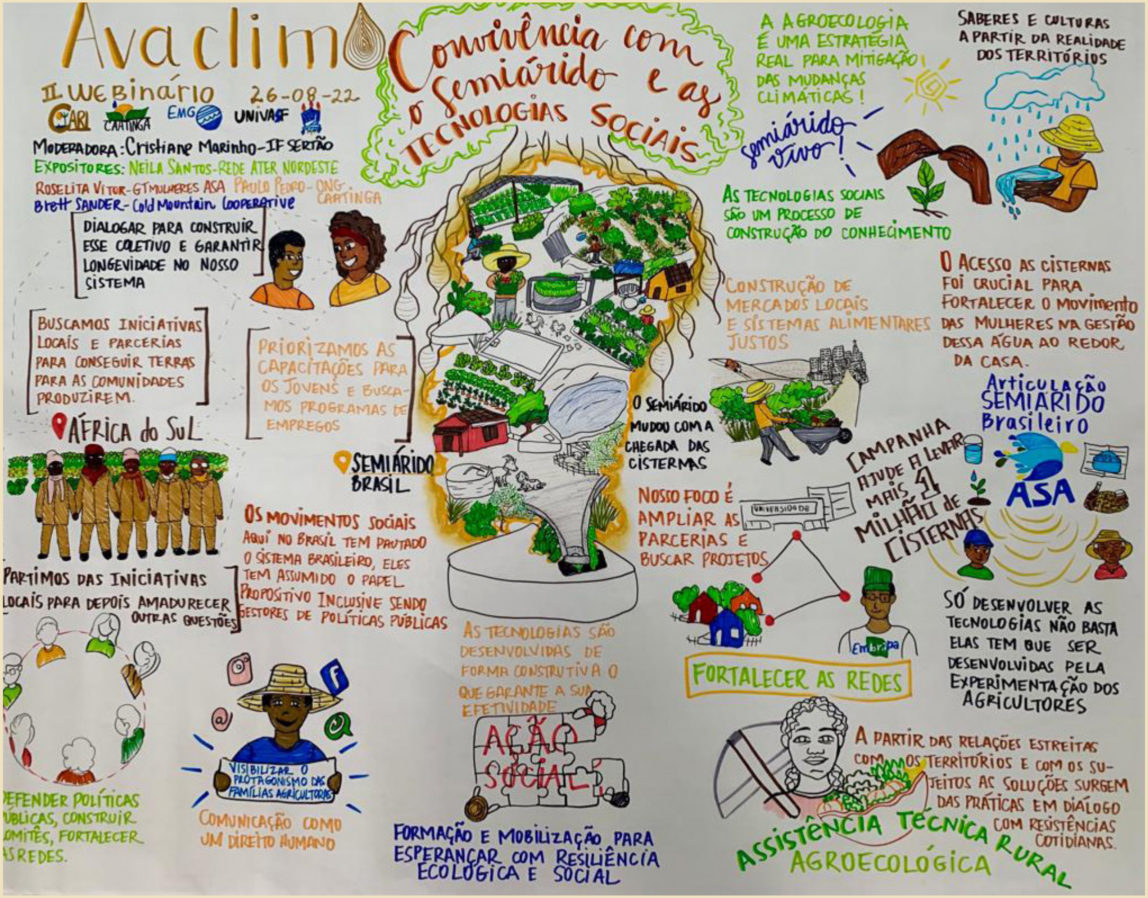
Da cozinha ao chiqueiro
Do mercado à plantação
Tudo é tecnologia
Para o povo do Sertão
Nós precisamos pensar
Seu verdadeiro lugar
Na vida de nossa gente
Pois a agroecologia
Requer tecnologia
Para tornar-se potente”

Caio Meneses



Facilitação gráfica do webnário AVACLIN com o tema "Feminismo e Agroecologia". Moderadora: Laeticia Jalil - Universidade Federal Rural do Pernambuco. (12/08/2022)

Facilitação gráfica do webnário AVACLIN com o tema "Convivência com o semiárido e as tecnologias sociais".
Moderadora: Cristiane Marinho – Instituto Federal do sertão pernambucano. (26/08/2022)





Dia 1 – Intercâmbio entre agricultores da Ecoararipe com a Cooperativa Agrofamiliar de Canudos, Uauá e Curaçá – COOPERCUC, e Comunidade Tradicional Ouricuri, experiência do recaatingamento.
Dia 2 – Troca de sementes e carrossel de experiências no Centro de formações Dom José Rodrigues do Instituto Regional da Pequena Agropecuária Apropriada – IRPAA. (Agosto, 2022)

O método AVACLIN e os caminhos da Agroecologia no semiárido brasileiro. (Setembro, 2022)



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avaclim

VALUE AGROECOLOGY FOR DRYLANDS

REALIZAÇÃO

PARCERIAS

APOIO

